

## **FARADAY STRUCTURED WAVEGUIDE MODULATOR**

### **ABSTRACT OF DISCLOSURE**

[56] Disclosed is an apparatus and method for modulating radiation having one or more predetermined properties, the apparatus and method including a waveguide structure having a mechanism for controllably influencing the one or more predetermined properties to modulate an emitted intensity. A radiation wave intensity modulator includes a first element for producing a wave component from a radiation wave, the wave component having a polarization property wherein the polarization property is selected from one of an orthogonal set of polarizations; an optical transport for receiving the wave component; a transport influencer, operatively coupled to the optical transport, for affecting the polarization property of the wave component responsive to a control signal; and a second element for interacting with the affected wave component wherein an intensity of the wave component is varied responsive to the control signal. A radiation wave intensity modulating method, the method includes producing a wave component from a radiation wave, the wave component having a polarization property wherein the polarization property is selected from one of an orthogonal set of polarizations (e.g., one of a right hand circular polarization or a left hand circular polarization); receiving the wave component; affecting the polarization property of the wave component responsive to a control signal; and interacting with the affected wave component wherein an intensity of the wave component is varied responsive to the control signal.